

What is claimed is:

1. A system for integration of actual product costs for calculating actual costs of a product, the system comprising a web server and a database server, wherein:

the database server comprises a database for storing cost variable definition data, operation center definition data, manufacturing expenses data, purchase data, inventory data and consumed material data, said cost variable definition data comprising cost variance (hereinafter “variance”) related data including a cost variable code field, a cost variable name field, a cost variable unit field and other fields, said operation center definition data comprising data on cost variables and work centers of each of operation centers, said manufacturing expenses data comprising expenses of each of manufacturing expenses accounts, said purchase data comprising purchase date, material number, material name, purchase quantity, purchase unit price, purchase expenses, said inventory data comprising current period inventory data and initial inventory data, said consumed material data comprising product name, product number, current period produced quantity, and all consumed materials’ numbers, names and quantities; and

the web server comprises:

a value-added costs integration module for calculating value-added costs of a product, the value-added costs integration module comprising:

a cost group file creation sub-module for defining cost groups, manufacturing expenses accounts and cost variables in each cost group, and for calculating the manufacturing expenses of each cost group based on the manufacturing expenses data and the cost variable definition data;

- an operation center variance calculation sub-module for calculating the sum of all the operation centers' variances and each product's variance for each operation center, based on the operation center definition data and the work time data on work orders;
- a cost group apportionment sub-module for specifying a ratio of each cost group's manufacturing expenses apportioned to each operation center; and
- a value-added costs calculation sub-module for calculating each operation center's total costs, each cost group's manufacturing costs corresponding to the operation center, and the operation center's apportioned variance;
- a material costs integration module for calculating material costs of a product, the material costs integration module comprising:
  - a current period purchase costs calculation sub-module for calculating purchase expenses apportioned to each of units of a material and current period purchase costs of a unit of the material based on purchase data of the material;
  - a historical purchase costs calculation sub-module for calculating historical purchase costs of a unit of the material based on the inventory data and the current period purchase costs;
  - a material costs calculation sub-module for calculating costs of each material consumed in a product based on the quantity of the consumed material, historical purchase costs of a unit of the material and the produced quantity of the product, and for calculating the material costs of the product based on the costs of each material consumed in the product; and

an actual costs integration module for calculating actual costs of the product by summing up the value-added costs and the material costs of the product.

2. The system for integration of actual product costs as claimed in claim 1, wherein the value-added costs integration module further comprises a manufacturing expenses account/amount transfer sub-module which obtains manufacturing expenses information, calculates manufacturing expenses data, and stores the manufacturing expenses data in a database.

3. The system for integration of actual product costs as claimed in claim 1, wherein the value-added product costs integration module further comprises an operation center maintenance sub-module for selecting work centers in operation centers and specifying cost variables to be apportioned to product costs.

4. The system for integration of actual product costs as claimed in claim 1, wherein the cost group file creation sub-module is used for summing up values of all of the manufacturing expenses accounts based on the manufacturing expenses data.

5. The system for integration of actual product costs as claimed in claim 1, wherein the operation center variance calculation sub-module sums up all work time on work orders of each work center of each operation center, for calculating an operation center total variance and product variances of each operation center.

6. The system for integration of actual product costs as claimed in claim 1, wherein the value-added costs calculation sub-module calculates each operation center's total costs based on the cost group apportionment variance of the operation center, and calculates each operation center's expenses rate and each operation center's product costs for each product.

7. The system for integration of actual product costs as claimed in claim 1, wherein the material costs integration module further comprises a purchase data gathering sub-module for gathering current period purchase data of the material to obtain a total purchase quantity, a total purchase value and total purchase expenses of the material.

8. The system for integration of actual product costs as claimed in claim 1, wherein the material costs integration module further comprises a purchase data retrieval sub-module for retrieving purchase data of the material.

9. The system for integration of actual product costs as claimed in claim 1, wherein the material costs integration module further comprises an inventory data retrieval sub-module for retrieving the inventory data of materials.

10. The system for integration of actual product costs as claimed in claim 1, wherein the material costs integration module further comprises a consumed material data retrieval sub-module for retrieving the consumed material data of the product.

11. A computer-enabled method for integration of actual product costs in order to calculate actual product costs of a product, the method comprising the steps of:

- (a) calculating value-added costs of a product, comprising:
  - (a1) defining cost variables, codes and other related data for generating cost variable definition data;
  - (a2) defining work centers in each of operation centers and determining cost variables of each product in order to generate operation center definition data;
  - (a3) obtaining manufacturing expenses information and saving the information as manufacturing expenses data;

- (a4) defining cost groups, and manufacturing expenses accounts and cost variables in each cost group based on the cost variable definition data and manufacturing expenses definition data, and calculating manufacturing expenses of each cost group;
- (a5) obtaining work time data on work orders, summing up all the work time on work orders of each work center in each operation center, and calculating an operation center total variance and product variances of each operation center;
- (a6) defining an apportioned variance to be apportioned to each operation center from the cost group's manufacturing expenses; and
- (a7) calculating the value-added costs of each product based on the manufacturing expenses of each cost group, the apportioned variance of each operation center, the operation center total variance of each operation center, and a product variance of that product;
- (b) calculating material costs of a product, comprising:
  - (b1) obtaining purchase data and saving the data in the database;
  - (b2) calculating current period purchase expenses apportioned to each of units of each material and current period costs of each unit of each material;
  - (b3) obtaining inventory data and saving the data in the database;
  - (b4) calculating historical purchase costs of each unit of each material;
  - (b5) obtaining consumed material data of a product and saving the data in the database;
  - (b6) calculating costs of each material consumed in the product; and
  - (b7) summing up costs of all materials consumed in the product to obtain material costs of the product; and
- (c) adding the value-added costs and the material costs of a product to obtain actual costs of the product.

12. The method for integration of actual product costs as claimed in claim 11, wherein step (a2) further comprises the step of selecting work centers in each operation center.

13. The method for integration of actual product costs as claimed in claim 11, wherein in step (a4), the manufacturing expenses of each cost group is obtained by adding up the values of manufacturing expenses accounts of each cost group.

14. The method for integration of actual product costs as claimed in claim 11, wherein in step (a5), the work time data on work orders comprises work time on work orders and an output quantity of each product in each work center.

15. The method for integration of actual product costs as claimed in claim 14, wherein in step (a5), each product's total work time is obtained by adding up all the work times on work orders of the product from all the operation centers.

16. The method for integration of actual product costs as claimed in claim 15, wherein in step (a5), each product's work time in each operation center is obtained by adding up the product's work time on work orders of all the work centers of the operation center.

17. The method for integration of actual product costs as claimed in claim 11, wherein step (a7) further comprises the steps of:

- calculating manufacturing expenses apportioned to each operation center;

- calculating each operation center's expenses rate based on the total costs of the operation center and the operation center's total variance;

- calculating the operation center product costs for a particular product in each operation center, based on the expenses rate of the operation center and the product variance of the operation center; and

adding up the operation center product costs for the product in all the operation centers, to obtain the value-added costs for the product.

18. The method for integration of value-added product cost as claimed in claim 11, wherein step (b1) further comprises the step of gathering current period purchase data of a particular material to obtain a current period purchase quantity, a total purchase value and total purchase expenses of the material.

19. A system for integration of actual product costs, the system comprising a web server, which comprises:

- a value-added costs integration module for calculating value-added costs of a product;

- a material costs integration module for calculating material costs of the product; and

- an actual costs integration module for calculating actual costs of said product by summing up the value-added costs and the material costs of said product.

20. The system for integration of actual product costs as claimed in claim 19, wherein the value-added costs integration module further comprises:

- a manufacturing expenses account/amount transfer sub-module for obtaining manufacturing expenses information, calculating manufacturing expenses data, and storing the manufacturing expenses data in a database;

- an operation center maintenance sub-module for selecting work centers in operation centers and specifying cost variables to be apportioned to product costs;

- a cost group file creation sub-module for defining cost groups, manufacturing expenses accounts and cost variables in each cost group, and for calculating the manufacturing expenses of each cost group

based on the manufacturing expenses data and the cost variable definition data;

an operation center variance calculation sub-module for calculating the sum of all the operation centers' variances and each product's variance for each operation center, based on the operation center definition data and the work time data on work orders;

a cost group apportionment sub-module for specifying a ratio of each cost group's manufacturing expenses apportioned to each operation center; and

a value-added costs calculation sub-module for calculating each operation center's total costs, each cost group's manufacturing costs corresponding to the operation center, and the operation center's apportioned variance.

21. The system for integration of actual product costs as claimed in claim 19, wherein the material costs integration module further comprises:

a current period purchase costs calculation sub-module for calculating purchase expenses apportioned to each of units of a material and current period purchase costs of a unit of the material based on purchase data of the material;

a historical purchase costs calculation sub-module for calculating historical purchase costs of a unit of the material based on the inventory data and the current period purchase costs; and

a material costs calculation sub-module for calculating costs of each material consumed in a product and the material costs of the product based on the quantity of the consumed material, historical purchase costs of a unit of the material and the produced quantity of the product, and for calculating the material costs of the product based on the costs of each material consumed in the product.



22. A computer-enabled method for integration of actual product costs, the method comprising the steps of:

- (a) calculating value-added costs of a product;
- (b) calculating material costs of the product; and
- (c) adding the value-added costs and the material costs of the product to obtain actual costs of the product.

23. The method for integration of actual product costs as claimed in claim 22, wherein step (a) comprises the steps of:

- (a1) defining cost variables, codes and other related data for generating cost variable definition data;
- (a2) defining work centers in each of operation centers and determining cost variables of each product in order to generate operation center definition data;
- (a3) obtaining manufacturing expenses information and saving the information as manufacturing expenses data;
- (a4) defining cost groups, and manufacturing expenses accounts and cost variables in each cost group based on the cost variable definition data and manufacturing expenses definition data, and calculating manufacturing expenses of each cost group;
- (a5) obtaining work time data on work orders, summing up all the work time on work orders of each work center in each operation center, and calculating an operation center total variance and product variances of each operation center;
- (a6) defining an apportioned variance to be apportioned to each operation center from the cost group's manufacturing expenses; and
- (a7) calculating the value-added costs of each product based on the manufacturing expenses of each cost group, the apportioned variance of each operation center, the operation center total variance of each operation center, and a product variance of that product.

24. The method for integration of actual product costs as claimed in claim 22, wherein step (b) comprises the steps of:

- (b1) obtaining purchase data and saving the data in the database;
- (b2) calculating current period purchase expenses apportioned to each unit of each material and current period costs of each unit of each material;
- (b3) obtaining inventory data and saving the data in the database;
- (b4) calculating historical purchase costs of each unit of each material;
- (b5) obtaining consumed material data of a product and saving the data in the database;
- (b6) calculating costs of each material consumed in the product;
- and
- (b7) summing up costs of all materials consumed in the product to obtain material costs of the product.